

REMARKS

Section A details the status of the claims. Section B notes that the Examiner has withdrawn from consideration claims that Applicants believe to be readable on the elected species. Section C responds to the 35 USC 102(e) rejections of the Office Action of December 9, 2004.

A. Status of Claims:

Claims 3, 5-9, 12-15, 23-26, 28-29, 32-33, 36-38, and 40-42 are pending in the application. Claims 3, 5-8, 23, 25, 28, 29, 32, 33, and 40-42 are withdrawn in this response. Claims 9, 12-15, 24, 26, 36-37 and 38 were rejected under 35 USC 102(e) as being anticipated by Halliyal et al., US Patent No 6,674,138.

B. Claims 3, 5-8, 23, 25, 28, and 40-42 Readable on Elected Species

In the restriction requirement of November 1, 2004, the Examiner required election between the species of Fig. 1 and of Figs. 2a-2b. Applicants elected to pursue to species of Fig. 1, and identified claims 3, 5-9, 12-15, 23-26, 28, 36-38, and 40-42 as readable on the elected species. Applicants believe that, based on this election (which was made with traverse), only claims 29, 32, and 33 should have been withdrawn from consideration.

The Examiner, however, has also withdrawn from consideration elected claims 3, 5-8, 23, 25, and 40-42. Applicants respectfully maintain that these claims are readable on the elected species, should not have been withdrawn, and should have been considered in the Action of December 9, 2004.

C. Claims 9, 12-15, 24, 26, 36-38; 102(e) Rejection

Claims 9, 12-15, 24, 26, 36-37 and 38 were rejected under 35 USC 102(e) as being anticipated by Halliyal et al.

Claim 9 has been amended to recite a method for making a SONOS device, comprising providing a channel region; providing a first oxide layer on the channel region by an in-situ steam generation process; providing a silicon nitride layer on the first oxide layer; and providing a second oxide layer on the silicon nitride layer, wherein the device is a SONOS device.

The Examiner points to the channel region 18, oxide layer 28, what he identifies as nitride layer 30, and oxide layer 32 of Fig. 1 of Halliyal et al. The disclosure of Halliyal et al., however, is clear that layer 30 cannot be characterized as a silicon nitride layer.

At col. 12, lines 1-33, Halliyal et al. describe various embodiments, including those in which layer 30 “comprises both a high-K dielectric material and a standard-K dielectric material” (lines 7-8); in which layer 30 “comprises a composite or a reaction product of two or more dielectric materials, at least one of which is a high-K dielectric material” (lines 9-12). In another embodiment, “high-K dielectric material completely replaces the nitride layer of a conventional ONO structure,” (lines 16-17); in another “the high-K dielectric material is, in essence, added to or combined with, the nitride layer of a conventional ONO structure” (lines 17-19); in still another, “the layer includes a composite dielectric material which replaces the nitride layer of a conventional ONO structure” (lines 19-21).

Halliyal et al. explicitly define the term “high-K dielectric material” to mean “a dielectric material having a K of about 20 or more” (col. 5, lines 58-59.) As silicon nitride has a K between 6 and 9 (see col. 5, lines 47-48 and Table 1) it is specifically excluded, and is not considered to be a “high-K dielectric material.”

Layer 30 of Halliyal et al. always includes a high-K dielectric, which cannot be silicon nitride. Thus in none of the embodiments described in Halliyal et al. can layer 30 be described as a silicon nitride layer, as recited in claim 9.

Claims 12-15 depend from claim 9 and thus also distinguish over Halliyal et al.

As amended, claims 24, 26, and 36-38 all include a silicon nitride layer on an oxide layer formed by ISSG and thus distinguish over the device of Halliyal et al. by the same rationale outlined for claim 9.

Applicants request that the 35 USC 102(e) rejection of claims 9, 12-15, 24, 26, and 36-38 be withdrawn.

CONCLUSION

In view of these amendments and remarks, Applicants submit that this application is in condition for allowance. Reconsideration is respectfully requested. **If any objections or rejections remain, Applicants respectfully request an interview to discuss the references.** If the Examiner has any questions, he is asked to contact the undersigned agent at (408) 869-2921.

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Date



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